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HOW CYCLOPÆDIAS ARE MADE.

WHAT constitutes a true Cyclopædia, or Circle of the Sciences? The question has been often asked, but is not easily or readily answered. Perhaps the best approximation toward an answer would be to pass in rapid review some of the efforts at Cyclopædia-making in Europe and in our own country. The Cyclopædia is comparatively a modern undertaking. It was not until a considerable portion of the community became interested in science and learning, that there was any demand for works which should popularize science, and enable every intelligent man to acquire a superficial and cursory acquaintance with the whole circuit of sciences. The first work of the kind was compiled by Abulpharagius, an Arabic writer, in the 13th century. At that time, the Saracens were the only nation in Europe, Western Asia, or Northern Africa, that cultivated literature. Of subsequent attempts at the preparation of a Cyclopædia, there are none on record, at least in alphabetical arrangement, before 1620, when Alsted's Encyclopædia appeared. Four others were published during the seventeenth century, only one of which, "*Bayle's Dictionnaire*," (1696) attained any great or permanent reputation. The others were Hofmann's *Lexicon Universale* (1677), Louis

Moreri's *Dictionnaire Historique* (1673), and Corneille's *Dictionnaire des Artes* (1694). These were all Continental, and three of the four were written in French.

In the 18th century, these works abounded, and in some instances were made the vehicles for the promulgation of new and revolutionary doctrines. Such was the great *Encyclopedie*, 28 vols., 1751-72, to which Voltaire, Diderot, D'Alembert, and others so largely contributed, and which was believed to have hastened the French Revolution. Other Continental Cyclopædias were: the *Encyclopédie Méthodique*, edited by Pankoucke, commenced in 1782, Zedler's *Universal Lexikon*, 1732-50, the *Deutsche Encyclopædia* of Koster and Roos, 1778-1804, and the first German *Conversations Lexikon*, commenced in 1796. In Great Britain, John Harris's *Lexicon Technicum*, which appeared in 1704, is believed to have been the pioneer of works of its class; though "Ephraim Chambers's Cyclopædia" (1728) had the highest reputation. Of both works, repeated editions and supplements were issued; the "Encyclopædia Britannica," first edition in 3 vols. was published 1771-1778, and "Chambers' Cyclopædia," edited by Rees, in 1786-1800. The first Cyclopædia printed in the United States was called "The British Encyclopædia," and said to be edited by Thomas Dobson, but was probably mainly a reprint of the "Encyclopædia Britannica." It was published in 1798-1804. An edition of Rees's Cyclopædia followed, 1810-1824; both these were published in Philadelphia. The "Edinburgh Encyclopædia," edited by Sir David Brewster, and published in Edinburgh, 1810-1830, was also reprinted here. The "Encyclopædia Metropolitana," in 25 4to. volumes, 1815-1845, was too costly a work for reproduction, and never paid for itself in Great Britain. The "Penny Cyclopædia" of Charles Knight, 27 vols., 1833-1843, which was afterwards re-arranged and largely re-written as the "English Cyclopædia;" "Lardner's Cabinet Cyclopædia," a collection of scientific treatises; "The National Cyclopædia," the several editions of the Cyclopædia of the brothers, R. & W. Chambers, and new editions of the "Encyclopædia Britannica," are the principal English Cyclopædias of the present century.

On the continent, Brockhaus's *Conversations Lexikon*, of which the first edition was published in 1818-1830; Ersch and Gruber's *Allgemeine Encyclopädie*, commenced in 1818, and not yet completed, though 160 volumes have been issued; Pierer's and Meyers, of both which frequent editions have been published, are the best known German general Cyclopædias, though there are many, so called, Cyclopædias of Theology, Science, Literature, History, Geography or Biography. The French have published numerous cyclopædic works, some of them of considerable value, but we have not time to enumerate them now. Up to 1830, there had been no Cyclopædia published in the United States making any pretensions to original authorship, on the part of American editors or contributors. The "Encyclopædia Americana," 1830-33, 13 vols., and with Vethake's supplement, 14 vols., though based avowedly on Brockhaus's "German Conversations Lexikon," and under the editorship of Prof. Lieber, who had then recently emigrated to the United States, contained very many original articles, some of them of exceptional ability. No other Cyclopædia was projected until 1856, when two were announced, but one, after making some progress, was given up; the other, "The New American Cyclopædia," issued its first volume in 1857, and completed the sixteenth in 1863. An American edition of Chambers' Cyclopædia was commenced in 1859, and completed in 1867, and a later edition has been since issued with added illustrations, and some further American matter. Zell's Encyclopædia, published in 1869-70 in two large volumes, is rather a dictionary than a Cyclopædia, and the condensation of this in one volume is still more liable to the same objection. The revision of the New American Cyclopædia of Messrs. Ripley and Dana, which now bears the name of the "American Cyclopædia," and of which 8 volumes or about one-half the work are now issued, and "Johnson's New Universal Cyclopædia" constitute the latest contributions to Cyclopædias proper, in English, yet published, or now publishing, in this country. There are, of course, many Cyclopædias and Dictionaries on special topics, or departments, which do not come within the scope of the present article.

Having thus briefly sketched the history of these necessary works of reference, let us inquire what is the best method of making a Cyclopædia? In the early times, when it was not intended to be the vehicle of new and perhaps revolutionary doctrines, as was the case with the French *Encyclopédie*, and to some extent with Bayle's "Dictionary," a Cyclopædia was usually a new compilation from standard works on the several sciences; that it should be a long way behind the times in the discoveries of geography, geology, and physical science generally, in the inventions and improved processes of mechanism and the arts, and in biography and literature, was not a serious objection, in those slow-moving days. The first bold attacks on this system of Cyclopædia-making, were the preparation of Knight's "Penny Cyclopædia" in England, and Brockhaus's *Conversations Lexikon* at Leipsic. Both were remarkable for the freshness and completeness of their information on all topics and in both all the important articles were written by experts, men who had made their several topics a life study. The *Encyclopædia Metropolitana*, and the *Cabinet Cyclopædia* which soon followed, or were in part contemporaneous with Knight and Brockhaus, were rather learned treatises on the arts and sciences than popular essays. They were both prepared almost entirely by the most eminent experts, and the same plan was largely followed in the later editions of the "*Encyclopædia Britannica*." The "*Encyclopædia Americana*" was the result of a combination of the two processes. Such articles as could be translated from Brockhaus were "lifted," as the French say, from that work; a considerable number were voluntary and unpaid contributions from eminent American scholars; some were written by the editor, who was himself an accomplished scientist; and received the munificent sum of \$600 a year for his editorial services; and some able but poverty-stricken scholars accepted the paltry compensation accorded to them, by the thrifty publishers, as better than nothing.

The edition of Chambers of 1859-67, was very largely prepared on the cramming principle. A library of the best works of reference was collected, and Dr. Findlater, who was managing editor, gathered a staff of impecunious young

Scotchmen, who for a very meager salary "lifted," condensed, and simmered down the articles from the materials at hand in their library. A few articles were written by experts, but so low was the scale of compensation adopted, that the writer received from Dr. Findlater himself the statement, that for no article in the ten volumes was so much as £50 paid, and for only one or two so much as £25. The new edition has many new illustrations and a few changes in the pages, but is not thoroughly revised. The New American Cyclopædia, in its first issue, was conducted on a mixed plan, employing a large and constantly increasing staff of editorial writers, many of them men of marked ability, who were provided with a fine library of reference, and to whom was entrusted most of the routine work, and many of the important articles; yet the services of specialists were secured on a very considerable number of topics. The result was a work which, though far from perfect, met the public want much better than any which had preceded it, and reflected great credit upon its editors. When the time came for a revision, a different method was adopted. The office was provided with a good reference library, and an office staff of sub-editors organized, to whom, with few exceptions, was committed the work of revising, rewriting, and bringing up to date, as nearly as might be, the articles in the former edition. This staff, though composed of men of fair ability, yet comprised very few who had distinguished themselves in any department of philosophy, science, literature, or art. Such men are not ordinarily to be obtained for a moderate weekly stipend. It is obvious, then, that on these topics, in which there has been marked progress in the past ten or fifteen years, (and this includes all of the useful arts, most of the fine arts, many of the sciences, and no inconsiderable portion of the literary, philosophical and theological topics,) their knowledge must be derived mainly from books; and yet nothing is more true, than that the best knowledge, on many of these topics, cannot be obtained from books. However elaborate a work a great scholar, artist, engineer, or scientist may have written on any subject which has been with him a life study, the man is always greater than his book, and there remains

with him a residuum of knowledge on the subject, which he himself can condense into shape as the very *attar* of his attainments, but which no one else can extract from his previously published works. Books, too, grow old, and where they discuss a topic in which there is constant progress, they very speedily fall behind its latest achievements, and a work, compiled from them, is sure not to be abreast of the times in its information. The articles may be, and doubtless many of them are, excellent, so far as they go; but they are not fully up to the latest and best knowledge attainable on their respective subjects. This is specially noticeable in all articles on mechanical subjects or the useful arts, and in articles on physical science. It is urged in behalf of this method of compiling a cyclopædia, that it ensures a greater uniformity of style, and a more equable distribution of space, for the several topics treated; and that it avoids the enormous expense involved in any other method. These considerations have some weight, doubtless; a uniformity of style is desirable, if it is not necessary to sacrifice what is of more value to obtain it; but a dreary, dead level, pleases no one. The expenses are much less than by other methods it is true, but they would be still less if a foreign cyclopædia were translated or appropriated. If the thing is worth doing at all, it is worth doing in the best manner; and this would seem not the best manner of doing it possible. If a publisher cannot afford the expense necessary to make the work as perfect as possible, why should he undertake it?

The plan adopted by the publisher and editors of Johnson's New Universal Cyclopædia, seems to us to obviate the difficulties of both the plans heretofore tried. It is edited by Frederick A. P. Barnard, D.D., LL.D., L.H.D., President of Columbia College, and Arnold Guyot, Ph.D., LL.D., Professor of Geology and Physical Geography in Princeton College, assisted by twenty-three associate editors. It is published by A. J. Johnson & Son, New York. The first volume A—E has just appeared. Both the chief editors, President Barnard and Prof. Guyot, and the department editors, receive a moderate royalty from the sale of the work, advances being made as required.

The department editors are selected, as the ablest men to be found in their respective departments, and while they are held responsible for all the work done under their direction, they are encouraged to engage or report for engagement the men best qualified, by life long study and experience, to write on each special topic in their departments. These contributors are paid liberally for their articles as they are delivered. In the list will be found almost every eminent scholar in the United States, and very many from foreign countries.

There are of course numerous routine articles, such as sketches of countries, biographies of men of some note, who belonged to a former generation or century, etc., etc., which require only careful compilation. For these purposes, and the critical examination of manuscripts and proofs, a small but very competent editorial staff is maintained at the office, and provided with a full library; but the greater part of the work is done outside, and by experts. After the articles are set up and corrected, they are subjected to critical revisions both by the editors-in-chief and eminent critics, here and abroad. Hon. George P. Marsh is one of these critical proof-readers. Of course this method of making a cyclopædia is very expensive; but the publisher has undertaken it on the principle that what is worth doing at all is worth doing well; and from the conviction that the American people are capable of appreciating good, honest, faithful work. We infer from a critical examination of the first volume, that the blemishes in it are very few, and none of them serious, while its merits are very great. In all topics bearing on education, in everything pertaining to mechanism, philosophy or the useful arts, and on all topics connected with physical or metaphysical science, it is at the same time very full and very fresh in its record. If the publisher can keep up to the standard he has set for himself, in the two volumes that are to follow, he will have condensed, for the American people, an entire library of science, literature, and art, into three volumes.

TWO COUNTRY SCHOOL-MASTERS ON THEIR TRAVELS.

II.

AS I remarked in the previous paper, deer-hunting constituted the principal Saturdays' pastime during our sojourn in the Van Wert forest, and it was genuine sport. It seems to me that there is no more cowardly, brutal and murderous "amusement" than the manner so commonly resorted to for hunting deer now-a-days. I allude to driving them into a lake with hounds, and then shooting them six feet from the muzzle of your gun, or attracting them at night by a bright light in the bow of your boat and then blazing away at the unsuspecting animals. In either case it is downright butchery. When a panic-stricken deer takes to the water, closely pursued by dogs, it will generally prefer to remain, and even be clubbed to death by hunters in boats, than to return to *terra firma* and take its chances with the baying hounds. To bag your animal under such circumstances, is to place yourself on a level with the pot hunter, and we are unable to understand how gentlemen going to the Adirondacks, or other hunting grounds, can consider either this or still hunting as "rare fun." The Van Wert hunters would have regarded with lofty contempt any such spurious sportsman. They followed the game for miles and miles with dogs, or watched for the animals at the crossings or openings, relying upon their unerring rifles to bring them down on the run or at very long range. An element of real honor and magnanimity entered into this kind of hunting, for the deer was afforded an opportunity for his life. For hours we would stand half sheltered at a crossing, listening to the baying of the hounds in the distance, straining every nerve to catch the sound of crackling twigs and leaves which indicated the approach of the deer. It was a moment of most intense excitement, and it is not surprising if the amateurs often shot wide of their game and sometimes forgot to shoot at all. There were two or three of the Van Wert hunters who would almost invariably bring down their animal. The

smoked or roasted venison, taken fresh from the spit, was a luxury to hungry mouths, of which they can form no idea who obtain their deer meat from the city shambles.

There were large numbers of black and grey squirrels in the forests, and our back-woods friends used to exhibit to us their remarkable marksmanship in picking them off. "Look," they would say to us, "that squirrel will have a bullet hole through his head, the back or hind quarter," as the case might be, and the rifleman would be as good as his word. "Barking" squirrels was a very favorite amusement and required no little skill. It consisted in either killing or benumbing them, without hitting them with a bullet. For example, if a squirrel lay along the side of a tree, the marksman would shoot an inch or more under him, just far enough to violently tear away the piece of bark on which the squirrel was resting, and throw both bark and squirrel to the ground. The latter would either be killed outright, or be so stunned as to render its capture an easy matter. Of course this could not always be done. The majority of such shots failed, but when successful they certainly constituted a very neat performance.

Another trick of the Van Wert riflemen was to kill or paralyze a squirrel with the wind of a bullet, by shooting as close as possible to the animal's head, without hitting it. Some authorities on marksmanship claim that this cannot be done, but my Van Wert friends could have convinced them of their mistake. When soldiers are "winded" by cannon balls, it is not unreasonable to suppose that squirrels may be brought down in the same manner by bullets. There were numerous instances, during our late civil war, of men being completely prostrated by the wind or concussion of shells or cannon balls. One came under my own personal observation. It was at the South Mountain Pass engagement, near Frederick, Maryland, fought in the summer of 1862—the prelude to bloody Antietam. A large shell, fired by the Confederates, exploded directly over our line of battle, and a private soldier in the ranks dropped like dead, and was supposed to have been killed. When his comrades went to him they found the poor fellow crying piteously and kicking vigorously, but there was not a sign

of a scratch upon his body. They stood him upon his feet, but he could not retain his standing position, and he was carried off the field. The next day he was no better physically, and what was still worse, he had lost his senses; his whole manner was that of an idiot. Time brought no improvement, and after the lapse of a week he was taken down to the railroad, not far from Harper's Ferry, and sent to his northern home—a hopeless case, so pronounced by the army surgeons. On enquiry from his companions I was informed that up to the time of experiencing this terrible concussion, which had shattered his nervous system and robbed him of his wits, he had been perfectly strong and vigorous. The medical authorities cite several other cases hardly less noteworthy.

But to return from my digression. Several of the settlers in the Van Wert forest were from the border Southern States, and they had brought with them the provincialisms and drawling delivery which, twenty years ago, were so marked in some portions of Dixie. Everything was "right smart" with both children and grown up people. It was snowing right smart, or the weather was right smart cold; Mary had a right smart pain in her side, or Daniel was a right smart boy. "Heap" was another favorite word, and found frequent application to things corporeal and things spiritual. One had a heap of cord-wood or a heap of religion, as the case might be. "Reckon" was another very common expression, in place of think and believe. They reckoned it would rain or snow, that it was early or late, etc. Though we soon became accustomed to these droleries of speech, they at first sounded rather comically to us. I never shall forget, for example, the amusement which a little girl afforded me when, in response to my enquiry as to her age, she very pertly replied: "I dun know, bût I reckon I am a right smart heap over eleven."

Affairs went along smoothly in both schools until one day Homer, who possessed a rather fiery disposition, called up one of his larger boys and sharply reprimanded him for some offence. The latter made an insulting reply, whereupon Homer felled him to the floor with his ferule. For a moment the offender was thought to be dead, and

prison walls loomed up in Homer's imagination. The boy, however, soon recovered and took his seat. The affair made a great deal of talk and comment in the settlement, which had not been accustomed to this style of procedure in their school-masters. The moral effect of the "exploit" upon the school, however, was most excellent, and Homer never afterward experienced the slightest trouble in enforcing the greatest reverence and respect among his pupils. Such a display of nerve on the part of a mere lad seemed to command their respect. Soon after I had a similar experience. One of the adjoining school districts had no teacher, and I consented that the young people and children should, such of them as might choose to do so, attend my school. Among the number who came was a very tall, angular fellow about nineteen years old, who thought to overawe me with his size and general bearing. From the first day he entered school he assumed an air and manner which were very offensive, particularly as he was present on sufferance. No rupture occurred, however, until one afternoon he placed his arm in a very familiar manner on the back of a chair in which one of the lady scholars was seated. I looked at him fiercely, and ordered him to remove his arm. He did not obey, whereupon I seized the poker, and advancing toward him, threatened to demolish the fellow's head. He dropped his arm, at the same time making an insulting remark. I immediately expelled him from the school, and he arose and left the building. The trustees called a meeting, and there was nothing else for them to do but to endorse my action. It was, however, a most rash and foolish performance on my part, and the wonder always has been that I did not get my head broken. With a little more age and discretion I should never have dared to do such a thing.

Border feuds are proverbial for their malignity and prolongation. One existed in the Van Wert forest. — and Owens owned "clearings" adjoining each other. Some years before they had quarreled about their boundary line, and were now bitterly hostile to each other. At recess one Wednesday their sons, aged about twelve years, got into a fight, from which they were separated by the older scholars. I carefully investigated the facts, and from all I could learn

inferred that Owens' son was the one mainly to blame. Accordingly upon the following Saturday, when perfectly cool and dispassionate, I punished him after sharply reprimanding the other boy. That night, when Owens senior learned what had been done, he became perfectly furious, declaring that he would be revenged upon me.

On the following morning, while I was sitting in my school-house with Homer, who had come over to spend Sunday with me, Owens suddenly opened the door, and advancing with a whip fully six feet long, discharged a perfect volley of oaths, declaring that he had come to "lick me within an inch of my life." He was a very large man, fully six feet high, and his eyes fairly glared like an angry tiger's. Homer seized a billet of wood and I the poker. At this Owens stopped and hesitated, and luckily for me while we were all occupying this offensive and defensive attitude, the minister of the Presbyterian church to which Owens belonged, suddenly came in sight. Seeing him the infuriated man turned on his heel and passed out of the door, remarking as he did so, that he would reserve my punishment until another time.

About noon, accompanied by Homer and William Baxter, one of my trustees, I called at Owens' house to pacify him, but so far from being pacified, he again advanced to strike me, and we left, going toward Baxter's house. Owens knew that I was obliged to return through the woods to my boarding place, and Baxter suspected that he might lie in wait for me. He accordingly provided me with a large pistol and accompanied me a portion of the way. Sure enough, we had not proceeded over a third of a mile when Owens jumped from behind a large tree, with a panther-like spring, declaring that my time had come. Baxter immediately threw himself between us, telling Owens that he could not strike me without striking him, and the latter walked away.

From that time until leaving the settlement, I carried my pistol in a belt about my body, in and out of school hours. Two days later I was surprised about the middle of the afternoon by a constable entering the school-house and exclaiming, as he rudely seized me by the shoulder, "You are

my prisoner." He then explained that he had arrested me on a suit for assault and battery, brought by Owens. I turned the school over to John Bowers, the oldest scholar, and accompanied the officer of the law to Mr. McGill's, close by. He kindly consented to wait until I could procure supper before hurrying me away. By the time this was finished the majority of the male members of the school had joined us; and a little later, the matter having been noised abroad, two of my trustees and several of the settlers arrived. Owens and his constable, who by the way were bitterly opposed to me politically, found that public sentiment was by no means entirely with them.

Just at dusk we started through the forest for the home of the Justice of the Peace who was to try me. It was three miles away. Arrived there, I was taken to the adjoining school-house, and placed as a prisoner upon a bench in one corner. The trial then formally opened. Owens stated his case, charging that I had, without provocation, unmercifully whipped his boy, "raising," as he expressed it, "large welts on his body."

Upon being asked by the Judge what I had to say in reply, I denied the charges in toto, and asked that the trial should be postponed until I could procure counsel and have the boy brought into court. I demanded this as a simple right, declaring that no person should be placed on trial for any offence without being permitted time to obtain legal advice. The Judge declined to accede to my request. At this a murmur of disapprobation ran through the crowd, which gave me more confidence. I accordingly repeated my demand, asserting that I must have time to send to Van Wert for counsel, and furthermore, that an investigation of the boy's body would utterly refute the statements of his father. The Judge, however, adhered to his original intention. It was very evident that no justice was to be shown me. The prosecution and the court manifestly intended to hold me over for trial at Van Wert, four months in the future, and to keep me in jail in the meanwhile, by fixing the bail at so high a figure that none of my friends would become surety for me. I accordingly held a consultation with my two trustees and others in the room, who advised

me, under the circumstances, to plead guilty. It was very galling to think of doing anything of the kind, especially as I was conscious of having done nothing wrong. However my college term was to commence in a few weeks time. I might be exposed to long and expensive litigation, though I was freed from danger of imprisonment, inasmuch as — offered to become my bondsman. I accordingly stood up before the Judge and said: "I plead guilty, but I should do exactly the same thing to-morrow." He imposed a fine of ten dollars upon me. Having paid this, I again addressed the Judge as follows: "Having been outrageously treated by you and your friends in this matter, I now prefer charges against Owens for profanity, and demand his arrest." A murmur of applause ran through the audience. The Judge at once replied that that thing had gone for enough, and the constable chimed in with him. But the crowd shouted "fair play," and the dispenser of "justice" was obliged, against his will, to have Owens arrested under a law against profanity, which, though it had been on the statute books for many years, was wholly obsolete. The learned Judge did not know of its existence until this time, as did probably but few in the State. "Take him to the prisoners' bench," shouted the crowd, as the constable arrested Owens, and he had to go. Then I called witnesses and proved that Owens, though a deacon in the United Presbyterian Church, had been guilty of profanity upon twelve different occasions, or rather had sworn twelve different oaths. We had got as far as this, when the Judge again protested that this thing had gone far enough. As it was late, and as my trustees advised it, I did decide to stop proceedings, and the Judge fined Owens ten dollars, the least amount he could under the law. Then the anti-Owens party cheered and hurrahed in a most vociferous manner. The prisoner was compelled to borrow ten dollars from some one in the crowd. As he paid it over and was liberated he declared, with a ghastly grin, "I guess I can borrow money and have as many friends as —," meaning myself.

That night they procured a white horse and took me home through the woods, as if I had been a hero, and certainly I have never since experienced anything so satis-

factory as was the friendship displayed upon that occasion by those honest-hearted back-woodsmen. I was a mere stripling, weighing less than a hundred pounds, and they resented what was manifestly an attempt on the part of the officials to persecute me for Owens' sake.

From that time forward the scholars and their parents seemingly warmed toward me, and improved every occasion to show that they wholly sympathised with me. Owen took all of his children out of school. County Superintendent Alexander, who had heard of the affair, (the news rapidly spread all over the country,) sent word to me from Van Wert village that I had been outrageously persecuted, and if I desired he would make an example of Owens without charging me anything for his legal services. The three separate occasions Owens had raised his arm to strike me, on that Sunday, constituted assaults in the eye of the law, and he proposed to begin suits on all three of them. I replied to him to go ahead. A week from the following Wednesday, when I was holding a night spelling-school, a courier rode up from Van Wert with a communication. A glance at the envelope showed me that it was from County Commissioner or Superintendent Alexander. He wrote that it was necessary to make complaint for assault and battery within ten days after the commission of the deed. My ten days were up at midnight that night. It was then twenty-five minutes to eleven, and Van Wert village was ten miles away. I whispered to William Baxter, who slipped out to his barn and soon returned with a horse all saddled and otherwise equipped for a long ride. He likewise brought a second pistol, considerably larger than the one I was carrying in my belt. I quietly left the school under John Bowers' charge, with instructions to close it in five minutes, and then mounting, started for Van Wert. I held the large pistol in one hand, ready to shoot down Owens if he should suddenly rush upon me, and with the other guided my horse. There was a light snow on the ground, and the moon frequently appeared and disappeared, adding to the weird effect and feeling of the lonely ride. It was indeed a strange journey for a boy of my years to be upon, at midnight, in that dense forest—simply for satis-

faction. What could I not accomplish now did I still possess half the pluck and vim which I then exhibited. It was necessary for me to ride very rapidly to reach Van Wert by twelve o'clock, the allotted time. There was no Justice of the Peace nearer, with the exception of the one who had been so strongly opposed to me. It was a quarter before twelve o'clock when I reined up in front of the tavern, and was directed to a Justice close by. The latter was awakened only to tell me that he was sick, and directed me to another, a little distance off. But I had not proceeded half the way when the village clock struck twelve, and it was too late to begin proceedings in the three assault and battery suits against Owen. I returned very chop-fallen to the tavern, warmed myself, and then started for home.

On the way I saw a bright light shining through a window by the roadside; I dismounted and asked the privilege of thawing myself out for a few moments. The owner of the house or hovel proved to be one of Owens' friends. Learning this, I proceeded to narrate the object of my night ride to Van Wert village, without however telling him that it had failed. He labored long and hard to dissuade me from the prosecution, arguing that Owens was poor, and would be compelled to sell his "clearing" to pay the fines which County Superintendent Alexander had assured me would, together with the expenses, be made to aggregate between one hundred and two hundred dollars. I pretended, however, to be inexorable, and left with the impression remaining upon the stranger's mind that his friend Owens would be put in a tight place. I reached William Baxter's about three o'clock, and crawled into bed tired and cold enough.

Upon the very next morning, hearing of my sudden exit from the spelling-school, Owens started for Van Wert to ascertain what had been done. He returned to the settlement before night, and remarked that "that d——d little Yankee had sued him and no mistake." The inference was, that he had stopped at his friend's on the way, heard the statement which I had there made during the night previous, and then turned about for home instead of going on to Van Wert village to learn more. It was stated, I know

not with how much truth, that he soon after, to avoid arrest, crossed the line, which was only two miles distant, and staid in Indiana during my remaining three weeks sojourn in the region. I forgot to say that I immediately wrote to Owen's minister after the trials, directing attention to the fact of Owen's conviction for profanity, and received an answer that the matter would be brought before the church.

Looking back over the matter after the lapse of nearly twenty years, I cannot say that I blame Owens for his course. He was a kind-hearted man, but doubtless honestly believed that I had wrongfully punished his boy. Then his animosity for the other boy's father intensified his feelings, and he was completely carried away by them for the time being. Should he still be living, and should this random sketch ever meet his eye, I trust he will believe that it was written in no unfriendly spirit, and that the writer would enjoy meeting him as a friend. So far as the Justice of the Peace was concerned, he ought to have been stripped of his authority, and himself imprisoned for his rascally action.

From this time forward nothing of an unpleasant character transpired in either school. Homer and I both closed with a final exhibition, and returned to college full of heart-felt sorrow at parting with many warm friends. Our school experiences had been on the whole rather turbulent, but we had seen a new phase of life, acquired physical vigor, made warm friends, and pocketed eighty dollars apiece for spending-money, a considerable sum for those days.

Fifteen years have elapsed since I have heard a word from any of our Van Wert acquaintances, with the exception of Mr. Alexander, who wrote me from Cleveland, Ohio, a few years ago. I have not seen Homer since 1864. The last time I knew anything of him, he was a successful district attorney of a western city. If there is one thing I look forward to with more pleasure than another, it is to leaving the wearing excitement of New York, and joining him in a visit to Van Wert—the scene of those blended joys and sorrows which left such an indelible impression upon our memories.

J. W. D.

HOW TO TEACH.* *Seventh Grade.*

LANGUAGE.

READING.—The methods given for teaching *Reading* in the Eighth Grade should be continued in the Seventh Grade. It is exceedingly important that children be early trained to give attention to the subject-matter of what they read.

Should the teacher find her class using monotonous or unnatural tones, several selections should be made of reading lessons that are composed chiefly of conversations. These may be used for training the pupils to read in easy, speaking tones. Afterward other selections may follow, and special care be taken to teach the pupils to read in a pleasant, colloquial style. Call upon different pupils to imitate the style of the best readers in the class.

Two extremes, as to the amount of reading which the class is taken over, should be avoided—that of keeping the pupils too long on the same lesson, and that of reading over many lessons without sufficient attention to the *matter* and *manner* of reading. The first extreme destroys the pupils' interest in this exercise, and prevents them from acquiring the habit of reading to gain information; the second leads to carelessness in manner, and the habit of reading without sufficient attention to the subject of the lesson, and to what is related concerning it.

The use of *Italics* should be illustrated from the black-board first, and afterward the pupils should be required to find examples in reading lessons, and to tell why the given *Italic* words are used.

PHONETICS.—Care should be taken, in conducting the exercises in sounds, to train the pupils in habits of distinctness of enunciation, and in the use of smooth tones of voice;—uttering the separated sounds of words will aid in accomplishing the first; and making the sounds with varying pitches and different volumes of voice will aid in pro-

* From "How to Teach. A Manual of Methods."

ducing the second. Silent letters should be pointed out by the pupils. They should also be required to tell what sound each letter has in given words, and to make the sound. These sounds may be described somewhat as follows:—*Call*, *c* has the sound of *k*, *a* has its fourth sound, the first *l* has its own sound, the second *l* is silent. *Bought*, *b* has its own sound, *ou* represent the fourth sound of *a*, *gh* are silent, *t* has its own sound. *Think*, *th* are sounded together, *i* has its second sound, *n* has the sound of *ng*, *k* has its own sound.

DEFINITIONS.—All modes of teaching that will allow pupils to give mere memorized definitions, without the ability to illustrate the meaning of the given words by their use in complete sentences should be avoided. During the exercises in definitions, the pupils' faults of language should be corrected.

SPELLING.—The exercises for teaching spelling in the Seventh Grade may be continued as in the Eighth Grade.

ARITHMETIC.

ADDITION.—The exercises in this grade should be extended to examples with from four to six columns of twelve or fifteen figures each; and with occasional examples of six or eight lines, embracing millions. Practical examples, relating to matters of daily occurrence in business, should be given.

Exercises for training the pupils to add without counting should be continued in this grade in a manner similar to those described for the Eighth Grade.

SUBTRACTION.—The processes of *Subtraction* may be arranged in three steps, and taught in their order, as follows, viz.:

First Step.—With short examples in which each figure in the subtrahend represents a number that is smaller than the one above in the minuend.

Second Step.—With examples in which it is necessary to take or "to borrow" from the column of a higher denomination

Third Step.—With examples having naughts in the minuend, making it necessary to take from the third or fourth column on the left.

The *Second* and *Third Steps* may be illustrated first by the use of bundles of sticks; also by the use of cents, dimes, and dollars, somewhat as follows: From 5 dollars, 4 dimes, and 2 cents take 2 dollars 8 dimes and 5 cents. Since I have only 2 cents, I must take one of the dimes and get it changed into cents. This will leave 3 dimes, and give me 12 cents in all. From the 12 cents I can take 5 cents, and 7 cents will remain. I wish to take away 8 dimes, but find that I have only 3 dimes remaining; therefore I must take one of the dollars and get it changed into dimes, which will leave 4 dollars, and give me 13 dimes in all. Now I can take away 8 dimes and have 5 dimes left. Then I can take 2 dollars from 4 dollars, and have 2 dollars left. This explanation may be followed by another in which the same figures (542—285), are used as *units*, *tens*, and *hundreds*.

The process of representing these illustrations may be shown on the blackboard, thus:

$$\begin{array}{r}
 \text{IO} \\
 4 \ 3 \ \text{IO} \\
 \$\$ \ \text{Ad} \ 2\text{c} \\
 2 \ 8\text{d} \ 5\text{c} \\
 \hline
 \$2 \ 5\text{d} \ 7\text{c}
 \end{array}$$

$$\begin{array}{r}
 \text{IO} \\
 4 \ 3 \ \text{IO} \\
 \$\text{h.} \ \text{At.} \ 2 \ \text{units} \\
 2 \ 8 \ 5 \\
 \hline
 2 \ 5 \ 7
 \end{array}$$

Afterward the process of the *Second* and *Third Steps* may be further represented on the blackboard, with common examples in subtraction, by cancelling the figures from which one has been taken, and writing the remainder above it thus:

$$\begin{array}{r}
 \begin{array}{r}
 \text{IO} \quad \text{IO} \\
 3 \ 10 \ 5 \ \text{IO} \\
 \cancel{A} \ 2 \ \cancel{\text{IO}} \ 3 \\
 1 \ 4 \ 4 \ 5 \\
 \hline
 2 \ 8 \ 1 \ 8
 \end{array}
 \qquad
 \begin{array}{r}
 \text{IO} \quad \text{IO} \quad \text{IO} \\
 5 \ 10 \ 1 \ \text{IO} \\
 1 \ \cancel{\text{IO}} \ 3 \ 2 \ 6 \\
 1 \ 5 \ 4 \ 1 \ 5 \\
 \hline
 9 \ 0 \ 5
 \end{array}
 \qquad
 \begin{array}{r}
 9 \ 9 \ \text{IO} \\
 3 \ \cancel{10} \ \cancel{10} \ 4 \ \text{IO} \\
 2 \ \cancel{A} \ 0 \ 0 \ \cancel{\text{IO}} \ 0 \\
 1 \ 3 \ 5 \ 4 \ 5 \ 3 \\
 \hline
 1 \ 0 \ 4 \ 5 \ 9 \ 7
 \end{array}
 \end{array}$$

After this process, commonly called "borrowing" (but which is really a change in a part of the higher denomina-

tion without altering the value of the entire number), has been illustrated on the blackboard by the teacher, the pupils should be required to copy on their slates the same examples, also the process of *taking from* a figure representing a number of a higher denomination, by cancelling; then similar examples should be given them to write out in full, that they may become familiar with the process of *taking from*, by cancelling.

Forms of illustration for explaining a subject should be continued no longer than may be necessary to enable the pupils to understand the subject. The process of cancelling in illustrating subtraction should be used for a few days only. When it is first dropped, another plan may be adopted to represent the changes in the figures. A *dot* may be placed over the figure in the minuend to indicate that it must be considered *one less* in the subtraction, thus:

..
4263	16320	240050
1445	15415	135453
<hr style="width: 100%;"/>	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>
2818	905	104597

In subtracting these examples, the pupil might say: 3 from 10 leave 7; 5 from 14 leave 9; 4 from 9 leave 5; 5 from 9 leave 4; 3 from 3 leave 0; 1 from 2 leaves 1—remainder 104,597.

This process is shorter and less liable to mistakes in practice than the common way of "borrowing one" from a figure in the minuend, and "carrying one" to the next figure in the subtrahend: besides, it prepares the way for readily understanding the operations in "Compound Numbers."

MULTIPLICATION.—Instruction in regard to the processes of *multiplication* may be presented in four steps, as follows:

First Step.—Give examples in which no single product will exceed *nine*, as

243	3,142	3,231	231,232
2	2	3	3
<hr style="width: 100%;"/>	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>
486	6,284	9,693	693,696

Second Step.—Give examples in which it will be necessary "to carry" to the next column, including multipliers of a single figure only, from 2 to 5, as:

345	4,583	2,435	32,563
<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
690	13,749	9,740	162,815

Third Step.—Give examples, including naughts in the multiplicand, and use as multipliers 6, 7, 8 and 9.

2,034	3,102	14,020	10,050
<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
12,204	21,714	112,160	90,450

Fourth Step.—Give examples with multiplicands, as in the third step, and use for multipliers 10, 11 and 12. Teach the pupils where to write the *first figure* in each partial product.

24,065	3,108	40,207
<u>10</u>	<u>11</u>	<u>12</u>
240,650	3108	80414
	3108	40207
	34,188	482,484

First, illustrate the step on the blackboard, then give the pupils similar examples for practice on their slates. When they have become familiar with one step, proceed with the next in order.

MENTAL ARITHMETIC.—The forms of the answers, in this grade, may very properly employ more language than in the preceding grade. The following examples and solutions of them will represent suitable forms:

Examples:—A man paid \$12 for a barrel of flour, \$8 for a ton of coal, and \$5 for a load of wood; how much did he pay for all? *Ans.* He paid for all the sum of \$12, \$8, and \$5, which is \$25.

A farmer paid \$40 for a cow, and sold her for \$36; how much did he lose? *Ans.* He lost the difference between \$36 and \$40, which is \$4.

What will 4 oranges cost, at 4 cents each? *Ans.* If one orange costs 4 cents, 5 oranges will cost 5 times 4 cents, or 20 cents.

Oral Drills.—Exercises for the rapid combination of numbers should be introduced during this grade, in addition to a continuation of drills by the “decades.”

The class may be trained to add several numbers, and each pupil to write the result on a slate, or give it orally. The teacher may give $7 \times 3 \times 4 \times 5 \times 6 \times 4 \times 2 \times 4 \times 5$, are how many? In giving these examples for addition, the teacher may say, at first, 7 and 3 and 4 and 5, etc. Subsequently the pupils should be taught the meaning of the word *plus*, and then these examples may be given thus: 7 plus 3 plus 4 plus 5, etc.

Each pupil, having added these numbers mentally, should write the sum obtained on the slate, and the teacher should then ascertain which pupils have performed the addition correctly.

MULTIPLICATION TABLES.—When all of these tables, through 12 times 12 have been taught by the *three forms* as described in the Eighth Grade, they may be reviewed from the blackboard in the following form, the pupils reading thus: 5 times 6 are 30; 6 times 5 are 30; 9 times 5 are 45; 5 times 9 are 45, etc.

5×6 are 30;	6×5 are 30;	4×8 are 32;	8×4 are 32.
9×5 “ 45;	5×9 “ 45;	6×8 “	8×6 “
7×6 “ 42;	6×7 “ 42;	5×8 “	8×5 “
4×9 “	9×4 “	7×9 “	9×7 “

In writing these tables on the blackboard for this review, the several products may be omitted, and the pupils required to give them from memory. At this stage the teacher should explain the use of the sign (\times) of multiplication.

ROMAN NUMBERS.—Review and give further applications of the key, as indicated in the directions relative to this subject for the Eighth Grade.

TABLES OF MEASURE.—The tables of weights and measures should be introduced first, by talking with the pupils about their experience in the use of them, and by familiar illustrations given by this means. Thus the table of United States money may be illustrated by cents, dimes, and dollars; that of liquid measure, by what the children know about buying milk, molasses, kerosene, etc., by the pint and quart; that of dry measure, by purchases at the grocery, by quarts, small measures, pecks, etc.; that of time, by observing the hours marked on the clock, and by attention to the days, weeks, months, etc.

After talking with the pupils about the uses of a given table, write it on the blackboard, and let them repeat it; then they may copy the items on slates, both in the order of the table and in a different order. Continue the repetition and copying until the table is thoroughly learned. Each of the tables may be presented and learned in a similar manner.

TABLES FOR THE SEVENTH GRADE.

UNITED STATES MONEY.

10 mills make 1 cent.	100 cents make one dollar.
10 cents " 1 dime.	50 " " one-half dollar.
10 dimes " 1 dollar.	25 " " one quarter of a dollar.
10 dollars " 1 eagle.	75 " " three quarters of a dollar.

LIQUID MEASURE.

4 gills make 1 pint.
2 pints " 1 quart.
4 quarts " 1 gallon.
31½ galls. " 1 barrel.

DRY MEASURE.

2 pints make 1 quart.
2 quarts " 1 small measure.
8 quarts " 1 peck.
4 pecks " 1 bushel.

TIME MEASURE.

60 seconds make 1 minute.	12 months make 1 year.
60 minutes " 1 hour.	52 weeks " 1 year.
24 hours " 1 day.	365 days " 1 year.
7 days " 1 week.	100 years " 1 century.
30 or 31 days " 1 month.	

Days of the Week.

Sunday,
Monday,
Tuesday,
Wednesday,
Thursday,
Friday,
Saturday.

March, }
April, } Are the Spring months.
May, }

June, }
July, } Are the Summer mos.
August, }

September, }
October, } Are the Autumn or
November, } Fall months.

Seasons of the Year.

Spring,
Summer,
Autumn, or Fall,
Winter.

December, }
January, } Are the Winter mos.
February, }

Review.—In reviewing these tables, the teacher may question the pupils somewhat as follows: How many hours make a day? How many days make a year? How many days make a week? How many weeks make a year? How many minutes make an hour? How many months make a year? What is the shortest measure of time? What does it take to make the longest measure of time? How many quarts make a gallon? How many quarts in three gallons? How many quarts make a peck? How many pints in two quarts? How many quarts in two pecks? Which is more, one bushel or three pecks?

A variety of similar questions may be asked after the tables have been learned in their order.

THE San Francisco School Board has adopted resolutions that the public school teachers of the lower grades shall study drawing, for the purpose of giving lessons to their respective classes; that all regular teachers be required to pass an examination in drawing at the next June vacation, and that those teachers who, without being excused by the Committee, on account of proficiency, refuse to take lessons and fail to pass the examination, shall forfeit their positions.

FROGS AND TOADS.

IT may be because we see frogs and toads so often, and because we generally regard them with dislike, that we are apt to think of them as very uninteresting animals. They are, nevertheless, very interesting, and the stories in regard to them are sufficiently marvellous, if we believe only a tithe of those related. Many instances are reported where they have been taken from the hearts of trees or from holes in rocks where, judging from the formation of the stone, they must have lain for many years. A Welsh miner working near Merthyr Tydoil, at a depth of forty-five feet from the surface, broke a piece of shale in which a frog was confined. It was weak but could move about. Its eyes were large and well formed, but were apparently sightless. The mouth was closed permanently, and the breath was drawn through the skin covering the lower jaw. The frog, although unable to eat, grew in size and weight. The spine was curved, having grown in a distorted manner to accommodate itself to the confined space. All this seems to prove that the frog had been confined in the rock for a very long time, though we are hardly prepared to accept the miner's statement that it had lived below the surface of the earth for five thousand years, without food.

Some time ago, a gentleman confined several toads in holes dug from a rock and hermetically sealed, with a view to discovering if they actually could live, for any length of time, without air and food. One of the cells was opened at the end of each month. After the first one or two months it was found that the toad was dead, except in two cases. In these the glass, with which the opening in the rock was closed, had been cracked. Thus air, and possibly a few small insects, were admitted into the cavity. This experiment, while it does not settle anything conclusively, would seem to show that toads cannot live for a great length of time without air and food. They may, in cases where they are confined in rock or trees, obtain both through small cracks.

That frogs and toads have some means of communicating

with each other, we must admit. Some of their acts, apparently, evince reasoning powers as well as powers of communication. A gentleman of unimpeachable veracity told the writer that he had, during the past summer, witnessed the migration of an army of small frogs from one pond to another, a mile and a half distant. Whether the original pond had become dry, or had in some way, as by manufactures, become polluted, he did not have time to discover. Certain it is that the frogs moved in a solid column, a yard wide, in a straight direction from their old home to their new one. The procession had already been two days crossing the public road which lay in their path when the narrator saw it. Although many were crushed by the passing vehicles, the line did not change its course, but moved steadily over the bodies of those that had been killed. There must have been some reason for leaving the original pond, and the frogs must have been able in some way to arrive at the conclusion that it would be better to migrate. They must too have had some means of making it generally known that such a movement was to be carried out.

The writer, when a boy, saw a very curious performance on the part of three or four frogs. They had a toad in the water and repeatedly pushed him under. Whether the intention was to drown him, it is impossible to say. One of the party, with a much to be regretted tenderness of heart, drove the frogs away and terminated the struggle. The writer also thinks that he has discovered in toads a fondness for music. At a summer hotel, the low piazza of which led directly to the parlor, it was noticed that the toads invariably came in when the piano was played, though they did so at no other time. This was often tested and did not once fail. A clergyman related to the writer that he had noticed a little fondness for music in water snakes. Sitting one day on the bank of a lake, playing on the flute, a water snake appeared and came near to him, evidently attracted by the music. He remained until the music ceased and he was frightened away.

An entirely trustworthy gentleman, Mr. Thomas Hill, reported to the American Society for the Advancement of Science, two curious instances of the sagacity of toads,

which, we think, came under his own observation. They have already been noticed in this magazine, but are of sufficient interest to be again instanced in brief. Mr. Hill noticed that when a toad attempted to swallow an insect too large for him, like a locust, he gets as much of it as he can into his mouth and then resorts to the nearest stone to actually push it down. On one occasion a locust, with its hind legs tied together, was given to a small toad. The locust's head was immediately seized, but the animal could not get much farther with his meal. As no stone or clod was to be found, he crept along, pushing the locust against the ground. The path however was a solid one, and was too smooth to allow any progress to be made. "To increase the angle," Mr. Hill says, "he straightened up his hind-legs, but in vain. At length he threw up his hind-quarters, and actually stood on his head, or rather on the locust sticking out of his mouth, and, after repeating this once or twice, succeeded in getting himself outside his dinner."

Another instance of the sagacity of toads in managing meals of inconvenient size was mentioned by Mr. Hill. A toad was trying to eat an earth-worm, but it was so long that it had to be swallowed in sections. The toad's jaws became tired and lost their firmness of grip, so that the worm crawled out five-eighths of an inch between each half-inch swallowing. The toad perceiving this, grasped his abdomen with his foot, and getting hold of the worm from the outside, held fast to what he gained by each swallow, and presently succeeded in getting the worm entirely down.

Some of these anecdotes seem very marvellous, but they come to us supported by such an array of evidence that we cannot doubt their truth. They certainly are sufficient to show that frogs and toads, so far from being unworthy of attention, are most entertaining and profitable subjects of study.



THE total number of persons under twelve or twenty-one years of age in Chicago unable to read and write is only 186.

GEOGRAPHICAL DISCOVERIES IN
1873 AND 1874.

II.

DR. H. FRITSCHÉ, of the Russian Observatory at Peking, has made a journey through Eastern Mongolia. He describes the country as in one part mountainous, with fertile valleys intervening, and, in another, as having the plateau character, with wide plains surrounded by high hills. The mountain ranges are uniformly eight thousand feet high, ten thousand feet being the greatest height. He discredits the Jesuit story of there being, in this country, mountains over fifteen thousand feet high, covered with perpetual snows.

There are two commercial centers on this plateau, one in the south-east, and another in the north-west. Dolonor, the first of these, has thirty thousand inhabitants. Lieut. Francis Garnier, the intrepid French explorer, who, unfortunately, was recently murdered by Chinese insurgents while exploring the Yang-tze-kiang river, in Cochin China, found a portion of it flowing under ground.

This phenomenon is so common to the rivers of that region that he arrived at the conclusion that "the subterranean portion of the rivers is, in this country, as considerable as the portion that flows on the surface. Rivers come out of grottoes in the mountains, completely formed; they disappear suddenly in abysses, and farther on you find them again issuing to light." Quartz slates, calcareous stones, and bituminous marble, constitute the geological features of the country. The people are timid and hospitable. Feudal organization still obtains. Rich landowners maintain bands of hired retainers, and engage in petty warfare with each other.

The excavations of the English Society in Jerusalem have revealed extensive subterranean passages and galleries, winding

aqueducts, and canals cut in solid rock, chambers, sewers, wells and tanks. A stream of running water was found, showing that a fountain exists far below the surface of the earth, and is still running—a circumstance of some interest, as there is now a dearth of water in Jerusalem.

A survey of the peninsula of Sinai, under the direction of the British Ordnance Survey, has determined that this was the scene of the events recorded in Exodus, and the examination has furnished a remarkable confirmation of the truthfulness and accuracy of the Biblical history. Jebel Musa was decided to be the Mount from whence the law was delivered, but this is disputed by Dr. Beke, who says that Mount Sinai is further to the northeast, in the desert, in the vicinity of the Gulf of Akabah.

Some important work has been accomplished in Australasia. Capt. Morsby, R. N., of the ship *Basalisk*, has explored a portion of the eastern shore of New Guinea. He found a copper-colored people, friendly and intelligent, and greatly superior to the black races of other parts of New Guinea. The country is beautiful and fertile. A great variety of products grow in the valleys, and many of the mountains are terraced to their summits with plantations. Dr. A. B. Meyer has also succeeded in crossing the island from Geelvink's Bay, on the northeast, to McClure's Gulf, on the southwest. This is the first time that the island has been crossed. He made large collections in natural history. While the Dutch have possession of the western half of the island, the eastern is free to colonization by any people.

Mr. Ernest Giles and Baron von Müller have been exploring central Australia west of the trans-continental telegraph line. They found a great salt marsh or lake one hundred and twenty miles long, also tin ore, extensive beds of hematitic iron, coal, and limestone. An important event is the completion of a telegraph line across the island, from Adelaide, in the south, to Port Darwin, in the north—a distance of two thousand and twelve miles. News has been received of the safe arrival at Perth of Col. Egerton Warburton's Exploring Expedition, which has traveled more than one thousand miles through a totally unknown part of western Australia.

Africa continues to be the scene of much exploring activity

General Gallifet has found evidences of glacial action in the Desert of Sahara. M. C. Tissot has discovered in Morocco the ruins of Banasa, a city founded by Augustus, and described by Ptolemy, but whose site was latterly unknown. M. Duveyrier has discovered a race of Berbers south of Algeria called Imobagh. They are white, and with them the custom of sex is reversed. The men alone wear vails, and consider it dishonor to expose their faces. The women alone are acquainted with the art of writing, and they exercise great influence in politics. Professor Blyden has penetrated Faluba, a country lying to the interior of the west coast, and to the northeast of Sierra Leone. It was found to be a land of extensive and fertile plains, with great agricultural capacity. The people are orderly, well fed, well clothed, and very desirous of intercourse. Gold is said to be abundant in certain parts. Mr. Bayard Taylor, writing from Cairo, Egypt, this year, describes that country as making wonderful strides toward civilization, principally through the exertions and influence of the Khedive. The country is traversed with railways. the plantations supplied with steam-engines, the cities undergoing change in conformity to European style, and the religious intolerance of the people, with their prejudice to strangers, dying out. Two of the most remarkable facts observed by him are the rapid spread of the English language, and an extraordinary change in the climate. The winters have grown so cold that fires, for which the houses are unprovided, are desirable. Rains, too, once unknown, have become common. At Cairo, he saw two of a race of dwarfs that dwell in the heart of Africa. The largest was about four feet tall. The statement of Herodotus regarding the existence of a race of pigmies in Africa is, therefore, the expression of a fact.

News has been received lately from Dr. Nachtigal, the German explorer, who has succeeded in reaching Waday in safety. Waday lies to the eastward of Dar-Fur, about 15° N. latitude. Owing to the peculiar ferocity of the people, no other European has succeeded in accomplishing the feat just achieved by Dr. Nachtigal. Within the past twenty years Doctor Vogel and Moritz von Beurmann both perished in the attempt. The country is poor, and the people exceedingly barbarous, brutal, and immoral. They cannot even build perpendicular walls of mud and straw. Every afternoon they get drunk on a native

strong beer called melissa, during which time it was until recently more than the life of even an Arab was worth to venture into the streets. Adultery, theft, and disturbance of the public peace are punished with immediate death. Gerard Rohlfs has accomplished a journey of seventeen hundred miles over the Libyan Desert. His objective point was the conjectured Oasis of Kufrah, which he failed to reach, being stopped by a shifting sea of sand, in which neither man nor camel could walk. He visited the Oases of Farafrah and Dakhel. The former is poor and thinly peopled, but the latter is extremely fertile, and has a population of seventeen thousand, while it could easily support ten times that number. The desert surrounding these oases is composed of alternate plains of sand and walls of ragged rock, rising sometimes to the height of fifteen hundred feet. The temperature in this desert is extraordinarily low, the range being from 23° to 36° Fah. at six A. M.

Dr. Livingston, the great African explorer, has at length finished his useful career. His last journey was from Unyanyembe to Lake Bangweola, begun in August, 1872. His object was to visit four fountains said to exist to the east of this lake, and to give rise to the Lulua and the Lufira, which form the Great Lualaba, and to two other streams flowing south to the Zambesi. He also proposed visiting the copper mines of Kantanga, and the underground habitations in the Kabogo mountains. These objects he is believed to have accomplished. On his return to Unyanyembe he was compelled to wade for days through water waist-deep. This exposure brought on dysentery, from which he died, at Lobisa, on the 5th of May, 1873, after fifteen days' illness. His body was carried to England and placed in Westminster Abbey. His maps and journals have all been recovered.

The British Expedition to Ashantee, under Sir Garnet Wolseley, for the suppression of the slave-trade, has been completely successful. Coomassie, the capital, was taken, and Coffee, the king, captured and made to pay a tribute to the British Government. The country is described as covered with forests, and crossed by three ranges of mountains. It is characterized by a remarkable absence of birds and animals. Gold exists, generally in paying quantities.—*American Educational Annual.*

NEGRO DEVOTIONS.

THE ante-war plantation darky now lives only in memory. Take him all in all he was a character whose like we shall never see again. With his transformation to freedom, there has been a gradual disappearance of those humorous extravagances and grotesque oddities which made the Southern Negro character, under almost all circumstances—a source of amusement and mirth. Exhilarated or depressed, sportive or doleful, godly or irreligious, sick or well, he was ever the laughter-provoking hypochondria-destroying darky. Pen and pencil pictures by those who saw him as he was will possess increased interest as he fades from sight.

During the winter of 1862-3, I was stationed at White Oak Church, on the Rappahannock river, opposite Fredericksburg, Va. On becoming weary of the monotony of camp life, we used to saunter out to the surrounding forests, fields and farm-houses in quest of adventure. Between the encampment and Acquia Creek, was a settlement of escaped slaves employed by government in wood-chopping. They occupied the huts built by the Confederates when in possession of that region, and were apparently very contented with their new mode of life. After the labors of the day were closed, they assembled for a Virginny "hoe-down," or to participate in religious exercises. Most of the older members of the community were of a religious turn, and not unfrequently spent the entire night in devotions. Their leader on such occasions, a wrinkled, osseous specimen, whose crisp hair and callous skin were, if possible, a shade darker than that of his companions, had been the head cook of his master, and now acted in the same capacity for the settlement. He was never so much at home as when exhorting the brethren, and, instead of being embarrassed by the presence of soldiers, he then talked and prayed with increased fervor. One evening, when I had my memorandum book with me, I took down his prayer word for word. He had just risen from his knees when we entered, but loth to lose an opportunity of displaying his talent to the "North-

ern white folks," he again kneeled down and delivered the following with great unction:—"Oh, Lord God of dis glorious Universe, wilt dou look down in de omnipresence of dy eye upon dese dy collard children bowed upon de knuckle-bone dis night. Take a solemn peep upon us and let a heap of light in. Dou knowest what dese dy poor darkies need. Dere be Sam, dere be Jerry, and dere be Pompey. Dey are in dere sins, dat's what I reckon. Help dem to git up and git from de wilderness of sin and come in to de clearing of salvation. Take a solemn peep also upon de darkies in de other cabin, who fiddle and whirl on de bombastic toe, while dy servant fulminates words to dee. May dey rise above the anthratory things of dis world, and fly like Massa Linkume balloon heavenward. [Professor Low's balloon was anchored near by.]

"Ruler of all humans on dis earth, wilt dou bress de Generals in de field dis night, if it be circumspection in dy eye. Bress de Colonels in de field dis night if it be circumspection in dy discreet eye, and also bress de Union soldiers, who carry de musket and chew de cartridge, fightin for de Union and de Stars and Stripes. Dey fight in a scientific cause and be de bestest of men; but good Lord, may dey swear less and pray more. And finally bress dy homble servant now supplicating dee in behalf of dese benighted darkies. It behoves dee to dig deep and sound to de very bottom of his heart. May dere be nary blimmage between myself and my Saviour.

"In de language of de mighty Washington, dis world is all a fleetin show. To-day we are alive and hoppin around like grass-hoppers, to-morrow de sickle of death cuts us down and spreads us out like grass in hay time. On every side dou knowest, oh Lord, is de evidence of de general dislocation and distruction of de human family. Dere be fightin among one another and natural disease. But we die to live again either as saints or evil spirits. Dere be discussions on doctrines, Elecshion, Beforeordination, Perfection, and sich like, confuse de intellects of both black men and white. But, good Lord, dou knowest dat dese are vain allusions, splittin an dividin dy creatures into sexes without mercy. Whoever will, can go to glory. Many dere will be with slick

countenances, white collars and fine clothes, who will find de gates shut against dem, while de blind old woman, hobbling on crutches, she go straight in. Amen."

The hearty burst of amens which followed from the hearers, indicated that they were no less satisfied with his "gifts" than the leader himself, whose serene and placid countenance was turned upon us in a most knowing manner, as much as to say, "Any white man beat this?" Several now joined in singing a "hymn," of which the chorus was,

"Lord, we are flowin to de fountain,
And it is 'so sweet ;
Didn't my Jesus turn him in de coffin ?
Didn't my Jesus turn him in de coffin ?
Sister Mary she loved Jesus
And so do I.
Lord, we are flowin to de fountain,
Flowin to de fountain,
And it is so sweet,
And it is so sweet."

While this was being sung a younger member of the band, with sleeves rolled up and a bandana wrapped about his head, stood in the centre of the cabin and kept time. He continued beating with his feet and patting with his hands, at the same time twisting himself into every conceivable shape that the human body will admit of, until the perspiration rolled in large drops from his forehead. An exhortation was next listened to, after which they sang a variety of tunes, the following being a sample :

Jesus 'll git us out o' dis,
Jesus 'll git us out o' dis,
An' we 'll go home to Canean,
An' we 'll go home to Canean,
An' we 'll go home to Canean.

The emancipation problem and freedom have worked such a transformation in the condition and character of the blacks that those who participated in the scene we have related would now laugh as much as any one else at the extremely ludicrous figures they cut.

CREAM OF THE EDUCATIONAL MONTHLIES.

THE Maryland *School Journal* takes ground against passing a Compulsory Educational Law in Maryland, because: (1st) Such a law is not needed. (2d) If enacted it would not be enforced. (3d) A stringent compulsory law, if thoroughly enforced, would do more harm than good. Such enactments, the editor says, are on the statute books of seven States, [eleven is the actual number] and the almost universal testimony is that they are of no avail. The last, and probably the best, is that lately passed in New York, which requires the attendance of children between the ages of eight and fourteen years at school, during fourteen weeks of every year.

A. D. Mayo, of Massachusetts, argues in the same journal that "an absurdly disproportioned importance in our country is attached to making young 'orators' of school boys and 'authoresses' of school girls. The American people are being strangled in a muddy ocean of worthless 'gab' and worse writing. And what with our stump speechifying and scribbling, it is a marvel that we know anything." This is pretty strong language and will meet with anything but general endorsement. So far from devoting too much attention to elocution and composition, our educators should give them still more than they at present receive. There never was a greater demand than now for finished "orators" and vigorous "scribblers" to take the place of windy blather-skites and venal journalists, who have done so much to drag down both of the political organizations in the country.

The Pennsylvania *School Journal* makes a strong plea for Literary Culture. The teacher needs it because it will make him a better teacher, and because it gives him influence and makes him more useful in society. A teacher should not be content to be a mere teacher. He should know something of many things, and be able to converse well and appear well and act well, not only in teachers' meetings, but in the drawing-room or the public assembly. President Hays, of Washington and Jefferson College, argues that one of the great afflictions of our whole system of State

schools is the interference of gutter politicians with matters regarding which they know nothing. Pandering to the prejudices of the rabble, for the sake of votes, they perpetually criticise and quarrel with every effort to elevate our schools, and so annoy able and sensitive teachers that they are driven out of the field: it is then confided to such incompetent hands that its course of study must be lowered or they can't teach it.

The *Illinois School-Master* impresses upon the teachers of History the importance, at all times, of getting at the logic of events. History is so largely a matter of memorizing, that the temptation is very strong to do nothing else. How much worse than a waste of time it is to rush through the seeming chaos of events and find no connecting cords? The teacher who has not a fair understanding of the whole field is poorly prepared to guide his charge over any considerable part of it.

The *Michigan Teacher* makes a strong plea for more Music in our Public Schools. The cause of the weariness and vexation during the progress of school work is, says the writer, the excited and weary condition of the nerves. Upon the nerves music acts as a sedative, smoothing the ruffled feelings and calming the perturbed flow of nerve power.

The *Virginia Educational Journal* prints (with the exception of the introduction) the valuable essay on "Moral Instruction in Schools," delivered by State Superintendent Ruffner, before the Educational Association of Virginia, at its last meeting.

The *Chicago Teacher* urges the introduction of more appliances into our schools for teaching and illustrating Natural Science. Costly school houses are built and luxuriantly furnished without any provisions for a Natural History Museum, a geological case, or even a shelf on which to arrange Natural Objects of interest or value.

THE old free school at Savannah, Ga., has been closed, the public schools being found sufficient.

EDUCATIONAL INTELLIGENCE.

THE Presidents of nearly all the leading Colleges in the United States met a few days since at Hanover, N. H., and discussed among other subjects college regattas and boating, taxation of college property, optional studies, and the comparative importance of classical and scientific studies, and the college and the university system. It was resolved not to interfere in regattas and boating in any way. While the influences attending these pastimes might divide attention somewhat from study, and so lower the standard of scholarship, the physical training and development secured more than compensated for any evil effects resulting therefrom. We think educators generally will coincide in the wisdom of this conclusion. Physical culture has been sadly overlooked in most of our American colleges. President Eliot of Harvard, and President Chadbourne of Williams, among others, took strong ground against the taxation of college property. President Eliot warmly argued in favor of optional studies, stating that this is the only country which compels a student to study prescribed branches after the age of 19. On attaining that age, he thought the student should have some choice in the matter. President Porter, of Yale, did not concur in all of President Eliot's views. Classical and scientific studies were then compared, and each side had its advocates. President Robinson, of Brown, urged the greater importance of the classics. The general opinion was that the languages and sciences should be studied as means of mental discipline only, during freshman and sophomore years; the succeeding years—junior and senior—should be devoted to philosophy, literature and special sciences, leaving the languages and mathematics optional during the junior year.

Rev. Thomas Pynchon, D.D., has been elected President of Trinity College, Hartford, Ct.

VARIOUS measures are now being taken to obtain a census of children of legal school age in New York City, with a view to enforcing the compulsory education law, which takes effect on the first of next January. Blank

forms have been prepared, which are to be filled out by teachers and principals, giving the names of their pupils. These are to be reported to the police, that they may make out lists of non-attendants at school. By section 10 of the compulsory law, an attendance of two weeks at an evening school is regarded as equivalent to one week at a day school. At a recent meeting, the Board of Education amended the by-law relative to the age for the admission of pupils to the evening schools, making it ten years instead of twelve, as heretofore. The effort to secure universal elementary education for minors is worthy of the hearty coöperation of the community. It is to be hoped that parents and guardians will do all in their power to assist in executing the law. Its enforcement will, because of the number of population, and the prejudice or indifference of parents, be at best a difficult matter. It is not to be expected that this movement will prove a complete success, but it will undoubtedly accomplish much now, and produce increasing good results as experience shows how it can best be directed.

THE Fall term of the Hampton, Va., Normal and Industrial School, for colored youths, has opened under favorable auspices. Over 300 students have already reported, and the number is steadily increasing, threatening to exceed the capacity of the school. The managers are putting up a new building known as "Virginia Hall," which, when completed, it is thought will accommodate all who may wish to enter the school.

RUTGERS COLLEGE, New Brunswick, N. J., opens this year with a freshman class of fifty-six, being larger than in any previous year. About thirty of these came from its excellent grammar school. The whole number of students in the college also shows a gratifying increase, there being one hundred and seventy-seven in the different classes. In ten years the number of its students has nearly tripled, the whole number in 1872 having been only seventy-five, as against one hundred and seventy-seven as at present.

THE Baltimore School Board has added German to the list of public school studies. It has also been decided to establish four German-English schools.

CURRENT PUBLICATIONS.

THE manifold attempts to provide, for those interested in education, a year-book or Annual Cyclopædia, which should furnish the much-needed information on educational topics, now not readily accessible, and when found not of the latest date, have, one after another, failed of a profitable measure of success, and have been discontinued. A new enterprise in this direction, "*The American Educational Cyclopædia*," now seeks for the public approval and patronage. It has some claims on both, which cannot be ignored. The great objection to most of its predecessors, and in some degree, to the Reports of the Commissioners of Education, has been that a sufficient degree of labor and care had not been bestowed upon them to secure substantial accuracy; that the information in regard to colleges, school-laws, etc., was quite as likely to be wrong as right. There was a measure of justification for this; for no one who has not personally attempted it can have any idea of the immense labor and constant vexation which attends the effort to obtain accurate statistics of colleges, or even accurate reports of the condition of the public schools of the several States. Every line costs one letter, and often three, four, or half a dozen; and if there is any possible way of misunderstanding what is wanted, that way is sure to be adopted by more than half of those who reply to inquiries. The variety in the arrangements of the reports of public schools is another source of great annoyance. If the department of education had the power to enforce upon all the State Superintendents the use of uniform blanks for their reports, there might be some improvement in this particular.

The publishers of this volume have expended much care and effort in its preparation, and the result is a very valuable book—not a perfect one, for no first effort of this kind ever can be perfect; but one far beyond what has been previously accomplished. The history of education and of educational legislation in each State is brought up carefully and succinctly to the summer of 1874; the statistics of geographical and scientific discoveries, of education in other

countries, of public schools in each State, and in one hundred cities, of colleges, universities, professional and scientific schools, normal schools; of deceased teachers and educators, and of school-books published during the year, are all compiled with a carefulness and accuracy which has not heretofore been attained.

The publication of the first volume of an annual of this character is always a difficult task. In succeeding years, as experience shows just what is wanted, we may look for a better book, though prepared with less labor. The present volume is, however, as we have already said, far in advance of its predecessors.

"The Schoolmaster's Trunk," by *Mrs. A. M. Diaz*, contains many good things. It deals with "Home-Life in Tweenit," which is much like domestic life in other villages besides Tweenit, and like much city-life too. The idea of the book is that women's lives are given over too largely to trivial and comparatively unimportant objects. With many, and we say with the majority of wives, especially in the country, cooking, cleaning, and housekeeping generally make up the sum of existence. How this can be avoided under the present system of living we do not see. It would be well to reform somewhat our manner of life, that women might have an opportunity to obtain more mental culture. A little less time might be spent on making pie, doughnuts, and other articles of this kind, which Dr. Clarke calls "unassimilable abominations." In this way women would have the leisure to form some acquaintance with books. There is much sense in Mrs. Diaz's little volume. We would like to see some of her suggestions adopted.

An interesting general history is *Thalheimer's* "Manual of Mediæval and Modern History." It is divided into five books and covers a period of fourteen centuries. To do this perfectly within the limits of a single volume, is of course impossible, but the work has been well done. Each chapter ends with a "recapitulation," and each book with a series of "questions for review." Maps showing the geographical divisions of counties at different times add greatly to the value of the work.

W. N. Hailman, in the preface to his "History of Pedagogy" modestly says that he does not claim to present even an abbreviated history of pedagogy. He has, however, in accounts of the more prominent thinkers and workers in the educational field, given us an instructive work. It will prove especially beneficial to young teachers, by acquainting them with the principles and methods of eminent educators. None of them are to be servilely copied it is true, but many valuable hints can be obtained from a study of their courses of procedure.

Dr. E. H. Clarke's new work, "The Building of a Brain," is a valuable contribution to the discussion of the question of identical co-education. His former work, "Sex in Education," attracted much attention and called forth several replies. The arguments were, however, usually based on the premise that Dr. Clarke was opposed to the higher education of woman. That this is a mistaken idea we have already taken occasion to point out. Dr. Clarke thinks that woman needs as much culture as man, but he does not believe that the best mode of obtaining it is the same for both. Girls, during the formative period of their lives, that is from the thirteenth to the nineteenth year, should be allowed a relaxation from labor, or an entire rest. The soundness of this view can best be established by gathering facts from the experience of teachers and from others—physicians, school-officers and parents, whose attention has been called to the subject. This Dr. Clarke has done. Much of the testimony he adduces has been sent to him unsolicited; some he has received in reply to letters and some is taken from public documents. The replies to questions addressed by him to parents, teachers and physicians, correspond so closely to those received by the Massachusetts State Board of Health that a quotation from the Fifth Annual Report of that body will give a good idea of the general testimony on this subject.

The Board sent out a circular soliciting replies to a series of questions, of which the first two were these:

1. "Is one sex more liable than the other to suffer in health from attendance on school?"

2. "Does the advent of poverty increase this liability?"

The first question was answered substantially as follows:

"Females more liable than males," by.....	109
"Males more liable than females," by.....	1
"Both alike liable," by.....	31
"Neither is in danger," by.....	4
"Not in district schools," by.....	1
"Not if both sexes exercise alike in the open air," by	1
"Unable to answer," by.....	5

The second question was answered substantially as follows:

"Yes," by.....	120
"No," by.....	12
"Uncertain," by.....	9

Many of those who answer "yes" add, "for girls," and it is evident that nearly all have the same limitation in mind. The value of these replies is increased when we consider that they come from physicians, members of school committees, teachers and superintendents.

The weight of testimony, then, is in favor of a course of study for girls more flexible, if we may so express it, than that pursued by boys; one which will allow a monthly relaxation from labor in order that the strength needed by the body may not be drawn off to the brain. What can be accomplished by such a course we have not yet seen, for it has not had a trial of sufficient length. The highest education of woman, and by education we mean a building up of the mental, moral and physical nature, is what we earnestly desire. We believe that it can be best attained by adopting a method of study such as is proposed by Dr. Clarke. In the discussion which this volume will undoubtedly call forth, we hope it will be borne in mind that its author is not opposed to educating girls, but to developing their minds without regard to their bodies.

The second edition of *Alexander S. Murray's* "Manual of Mythology" is considerably larger than the first. Much of it, too, has been re-written, so that it may almost be regarded as a new book. The author does not confine himself to the gods of the Greeks and Romans, but adds chapters on the Norse, old German, Hindoo, and Egyptian mythology

The work is, we believe, founded on the researches of Preller and Welcher, but it is not a servile copy ; it treats its subject independently. Mr. Murray is a man of great erudition, and he has accomplished the task of giving us a trustworthy book, written in an attractive manner. It is profusely and well illustrated.

Teachers and persons of high and liberal culture generally have long felt the need of a work which, within a moderate compass, should give them an intelligent idea of the history, progress and present condition, and of the leaders in all ages of the four great departments of art—architecture, sculpture, painting and music. Attempts have been made to supply this need, but none, within our recollection, has ever so successfully accomplished it as *N. D. Anvers*, to whose work, "Elementary History of Art," T. Rogers Smith has added a preface. Based on a German Manual of acknowledged excellence, it has received from the compiler, himself an eminent art student, so many additions, as to be essentially a new book. Without any long diffuse dissertations on art and its influence on the world it goes directly to the subject, traces succinctly the process of each department through the ages, chronicles briefly the career of the most eminent architects, sculptors, painters, engravers, and musical composers of each century, and describes with equal brevity and clearness their principal productions, pointing out the peculiarities of each ; and in short, gives to the traveler, the general scholar, or the teacher, just that sort and amount of information which will enable him to recognize a great work of art when he sees or hears it, to converse intelligently about it, and to feel that without being an artist himself he can hold pleasant and instructive intercourse with artists. Of course no book can make a man an artist or even a competent critic of art, who has not genius, or at least the keen perception of what is beautiful and fitting in art ; but these attributes being present, this book will greatly stimulate and help their exercise. It is a wonderful specimen of condensation ; for in the space of 646 crown 8vo. pages it gives an amount of information which would be sufficient to extend over at least a dozen quarto volumes of the ordinarily diffuse writers on art topics.

MISCELLANEA.

PROF. O. C. MARSH, of New Haven, has gone West in search of fossils, his agents having advised him of the probability of some new discoveries. The lateness of the season, and the hostile attitude of the Indians, make the enterprise hazardous, but the party will have a suitable military escort. No Yale students accompany the expedition.

A MODERN philosopher, having in mind the motion of the earth on its axis at seventeen miles a second, says that if you lift your hat in the street to bow to a friend, you may go seventeen miles bareheaded, without taking cold.

THE Rev. Henry W. Foote, of King's College, Boston, is engaged upon a history of that edifice, of the building which preceded it, and of the times and men with which it is associated.

A SUIT has been brought against New York City to obtain \$3,000, the last payment due for building the Delancy-street school-house, on a contract with the old Board of Public Instruction, which was a department of the city government. The case was heard by Chief-Justice Monell, in the Supreme Court. The defence agreed that the present Board of Education, being an independent organization, the city was not responsible for its debts. The Court gave judgment for the defendant. The question now is, who will pay for the school-house?

AN anxious parent, whose son has already mastered French, German, and Italian, has determined on sending the youth to Finland in order to give his boy's education just the little Finnish it required.

THE pocket-book taken from the person of Major John Andre by his captors, Sept. 23, 1770, has been presented to the Connecticut Historical Society by Rev. A. L. Whitman, of Groton, Conn., and has been placed in the exhibition hall of the Society in Hartford. It will hereafter be preserved by the side of Arnold's watch, which has been for many years in the cabinet of the Historical Society.

"IF you try our coffins once, you will never use any others," is the touching but assuring style in which a Cincinnati manufacturer of coffins asserts the superiority of his wares.

THE Bolognese have decided to erect a monument to Galvani, the great Bolognese physician, who discovered animal electricity.

IN giving geography lessons down East, a teacher asked a boy what State he lived in, and was amused at the reply drawled through the boy's nose, "A state of sin and misery."

A METHOD by which persons with short memories may sing songs that have been partly forgotten, and also supply rhymes, is suggested by the following :

" Oh, if I had a lumty tum lumty tum loo
In the land of the olive and fig,
I would sing of the lumty tum lumty to you,
And play on the thing-umy-jig.
And if in the lumty tum battle I fall,
A lumty tum 's all that I crave ;
Oh, bury me deep in the what-you-may-call,
And plant thingumbobs over my grave."

THE NATIONAL NORMAL will hereafter be merged into *The National Teacher*, and will be published at Columbus, Ohio.

MR. HENRY KERNOT died at his residence in New York on Sunday, Oct. 25th. He was born in London in 1806, and was, during his whole business life, connected with the book trade. He was remarkable for his knowledge of books, and especially in regard to old works, was probably as well informed as any man in the country. His latest production, "*Bibliotheca Diabolica*," was noticed in this magazine last month.

EVERY SATURDAY has been merged into *Littell's Living Age*. The latter will be sent to subscribers to *Every Saturday* for the unexpired term of their subscriptions.

THE main buildings of the University of California proving insufficient, the Regents have arranged for the erection of cottages, capable of accommodating twelve students each.

THE University of Virginia has forty-three free scholarships in its Agricultural school. They include all the benefits of a scientific education.

THE dormitories at Harvard College are not provided with fire escapes, and it is feared that should they burn down in the night many lives would be lost. The attention of the authorities has been called to the subject.

SOMEBODY has written a book entitled "What Shall My Son Be?" Upon which some one else frankly replies: "If the boy is as bad as the book, the chances are that he will be hanged."

A DISCARDED god of Japan is advertised in the Japanese papers in the following terms: "For sale, at Kama Kura, a very fine idol, with six arms. It is fifteen feet high, and was cast in bronze at Sheffield."

MR. AMASA MAY, long prominent in the school-book business, and eminent as the author of a series of reading-books, died on the 19th of October.

MR. JONATHAN TENNEY, recently appointed Deputy State Superintendent for New York, has, for the greater part of his life, been engaged in educational work. For seventeen years he was principal of different academies and high-schools in New Hampshire and Massachusetts; for three years he held the office of county school commissioner; he was secretary of the New Hampshire Board of Education for two years, and for a like time was chairman of the Manchester Board of Education. In 1854 Mr. Tenney founded the N. H. State Teachers' Association, and was its presiding officer for four years. Since that time he has done institute work in Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and New York. For the past five years he has resided in Oswego, N. Y., being engaged in institute work part of the time, and part of the time performing his duties as Superintendent of Public Schools. Mr. Tenney is a graduate of Dartmouth College. From his former success in educational work, we feel justified in predicting that he will make a valuable officer in his present more enlarged field of labor.

PUBLISHERS' DEPARTMENT.

THE many commendations of **Masterpieces in English Literature**, received from prominent educators and from the press, convince its publishers that they have not overestimated it.

Prof. William Preston Johnston, Washington and Lee University, Va., says: "With some seven years experience in teaching English Literature, I can say unreservedly that, in scope and execution, I consider this the best text-book on the subject."

Prof. Edwin D. Sanborn, Dartmouth College, says: "I like the plan of your work very much."

M. B. Anderson, LL.D., Pres. University of Rochester, says: "Its plan and construction are worthy of the varied attainments and elegant culture of the editor."

L. Hunt, Prin. Lawrence Academy, Falmouth, Mass., says: "It is a noble work. The author has shown the painstaking scholar in the illustrative notes."

American Booksellers' Guide: "A most valuable aid to the study of the English Language and literature."

Christian Intelligencer: "The volume is a model of its kind, and we welcome it as symbolizing the dawn of a brighter day for English Literature in our higher schools and colleges."

The World, N. Y.: "The foot-notes are very comprehensive."

The Observer, N. Y.: "It is rich in material and calculated to awaken and stimulate the spirit of study."

Published by J. W. Schermerhorn & Co., 14 Bond St., New York.

Although **How to Teach** has been for some months before the public, it has not ceased to attract the favorable notice of teachers and editors.

The American Journal of Education says: "The detailed directions and explanations given by the practical authors of the book are excellent, and the work should be in the hands of every teacher and school director."

J. Ellis Haynes, School Commissioner Ohio Co., Ky., says: "I regard it as a book of great merit—a Teachers' Library in a single volume."

H. L. Cox, Co. Supt. Monongalia, W. Va., says: "It enables the teacher to give system to his work, and to thereby avoid that aimless and inefficient work that is to be seen in so many of our schools." Published by J. W. Schermerhorn & Co., 14 Bond St., New York.

Prof. E. T. Quimby, of Dartmouth College, says of *Phillips' Elements of Geometry*: "I find it the best arranged that I have ever seen. I find for the first time in type, methods I have used many years in my teaching."

Prof. T. H. Kimpton, Boston University, says: "It is concise and clear in its definitions and demonstrations, while its arrangement is the best I have ever seen."

Rev. N. Fellows, Prin. Wesleyan Academy, Wilbraham, Mass., says: "The classification is admirable, and the distribution of the definitions, when they are needed for immediate use in pursuing the study, is a wise arrangement."

The **American Educational Cyclopaedia** has received the endorsement of State and County Superintendents and of many teachers, as being the most complete and accurate work of the kind ever published.

Good Selections, No. 2, compiled by *Prof. J. E. Frobisher*, is now ready. Price, paper 30c. Published by J. W. Schermerhorn & Co., 14 Bond St., New York.

The Christian at Work—With September, Dr. Talmage entered upon the second year of his editorship of *The Christian at Work*. His crisp editorials and sermons, which are published each week, have insured the success of the paper, which now ranks among the best of the religious weeklies. The chromo business has been greatly improved upon by the present publisher, and instead each subscriber receives a portfolio of twelve beautiful etchings by A. Hendschel. To such as desire a chromo, the publisher continues to offer the large animal picture, twenty-two by twenty-eight inches in size, after Landseer's celebrated painting, the "Twins." The terms for the paper, including postage as required by the new postal law, with the portfolio or chromo delivered free, are \$3.25. There are no extra charges of any kind whatever. Liberal inducements are offered to agents. They are set forth in the advertisement in another column.

The attention of those in want of **Bells for Churches, Schools, etc.**, is called to the advertisement of Vanduzen & Tift, of Cincinnati, Ohio. Full descriptive catalogues, with prices, etc., will be sent free on application to them.

